the materialist and mechanist theory of living things. This is implied in the concluding paragraph of the book, in which he suggests that they, together with some other advances of method and knowledge of less direct bearing, invalidate the arguments in support of vitalism put forward nearly forty years ago by Prof. Hans Driesch. Needham, referring to Driesch's arguments against the possibility of interpreting vital phenomena in terms of physics and chemistry, sums up the advances of recent years towards such understanding as follows: ' We no longer feel the necessity which he felt to place the " intensive manifoldness" of the egg outside space-time. In 1895 very little was known of the complexities of the colloidal state, next to nothing about molecular orientation at interfaces, and nothing at all about the biological significance of crystals. Even the non-symbolic status of organic structural formulae was in doubt. The possibilities inherent in the field-concept were quite unexplored, and the existence of physiological gradients had not been discovered. Practically nothing was known about the relational properties of development as manifested through the action of organizers or evocators of various grades. The potentialities of the protein-chain and the phenomena of molecular deformability and contractibility were unguessed at, and there was no hint of the exploration of solid bodies by the X-ray analysis. These many and great advances give every promise of a profounder insight into the nature of organic form. To abandon the quest at this stage would

surely be the height of folly/

The passage cited implies that Needham, like Hogben, identifies scientific explanation with mechanistic explanation : it implies that to seek any other than a mechanistic